



Chico

**Golden  
Empire  
Amateur  
Radio  
Society, Inc.**

www.gears6rhc.org

"Dedicated to Public Service"

# THE RADIATOR



W6RHC  
IRLP #8170



P.O. Box 202 Chico, CA 95927

February 2023 Newsletter

GEARS Founded August 13, 1939

From the President

Winter Field Day is in progress as I write this. I couldn't go to Artois to join the fun because I'm at the very end of moving out all the stuff from my old house. I'd like to join GEARS members for Parks on the Air operation in the near future. See <https://parksontheair.com/> for info. I'm most interested in "international portable amateur radio operations that promote emergency awareness and communications from national/federal and state/provincial level parks."

The Verizon cell phone outage during the Paradise Camp Fire in 2018 and the 2020 AT&T outage local disrupted 911. Planes grounded after Nashville phone exchange explosion are reminders of why ham radio is needed.

One event I did attend recently was the radio training for beginners, open to the public, taught at the Sheriff's Posse classroom on Openshaw by ham operator and CERT member Robert Kelly, K6VNR.

"...a mix of slide show, discussion, and practice; all with a focus on intra-team communication. This class is required training for all CERT Trainees." Although primarily using GMRS-- Winlink, packet, HF, repeaters and other amateur radio related topics are discussed. I'd like some GEARS participation for club recruitment purposes.

The next ham radio breakfast will also be at 9am on the second Saturday, February 11th at Farmer's Skillet on Cohasset in Chico. The next general meeting, the third Monday on February 20th (also President's day) is at the Chico Public Library, 1108 Sherman Ave. 6 pm social gathering, 7 pm meeting.

Check in to the weekly GEARS net at 7:30 pm on 146.85- pl 110.

'73

J. Kent Hastings WA6ZFY  
[wa6zfy@arrl.net](mailto:wa6zfy@arrl.net)



## February 2023 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 7:30pm Simplex Net	3	4
5 8pm OARS Net 2pm VEC Testing	6 7pm GARS Net 8pm ARES Net 7pm GEARS Board Meeting	7 7pm PARS Net 7:30pm GEARS Net	8	9 6:30 pm PARS meetings 7:30pm Simplex Net	10 7pm OARS meeting 7pm GARS meeting	11 9am Chico Breakfast
12 8pm OARS Net	13 7pm GARS Net 8pm ARES Net	14 7pm PARS Net 7:30pm GEARS Net	15	16 7:30pm Simplex Net	17	18
19 8pm OARS Net	20 6pm GEARS Meeting 7pm GARS Net 8pm ARES Net	21 7pm PARS Net 7:30pm GEARS Net	22	23 7:30 Simplex Net	24	25 9am OARS Breakfast
26	27 7pm GARS Net 8pm ARES Net	28 7:30pm GEARS Net				

**VEC Testing**, FCC License Exam available by appointment. For information or registration call Tom Rider, W6JS 530-514-9211

**Chico Breakfast** 2nd Saturday 9am Farmers Skillet Cohasset Rd, Chico

**GEARS Board Meeting** 1st Monday 7pm by Google video meetups.

**PARS Meeting** 2nd Thursday 6:30pm, doors open 6pm Old Magalia Community Resource Center

**OARS Meeting** Second Friday of the month, St. Pauls Episcopal Church Hall, Oroville.

**GARS Meeting** Second Friday of the month, Lutheran Church Hall, Artois.

**GEARS Meeting**, Doors open 6pm, meeting 7pm at Chico Public Library, 1108 Sherman Ave, Chico

**OARS Breakfast** 4th Saturday of the month, at Cornucopia of Oroville.

### NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5

GARS Club Net Monday, 7:00 pm 147.105 MHz + PL 110.09, secondary: 146.850 MHz-PL 110.9

Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3

GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9

PARS Club Net Tuesday 7pm 145.290 - PL 110.9

Simplex Net Thursday 7:30 p.m. 146.52 no tone

Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3

Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9

## 10-Meter Mayhem: Taking Advantage of the Hottest Band in Town

It's an exciting time to be a fan of the 10-meter band as hams have been feasting on openings the likes of which haven't been available for years. We'll call it "10-Meter Mayhem." If you're a long-suffering ham who has cursed the dearth of sunspot activity, you may call it, "It's about darn time!"

A recent Facebook Live exchange between Tim Duffy, K3LR and Troy Blair, KE8DRR, is indicative of the DXing bonanza hams are finding on 10 meters as of late—compliments of Cycle 25:

Tim: What do you think, Troy, about 10 meters?

Troy: It's the most open it's been since I've been in the hobby. I've been able to make contacts all over Central America. I've got Great Britain and Scotland on 10 meters.

Tim: Yeah, and it was really good this past weekend in the CQ Worldwide Contest.

When asked about their DXing achievements on 10 meters over the years, some folks noted that some of their most impressive contacts have been made during the current cycle, including:

Central Visayas from the Oregon Coast

CW contact to Chad from a small station in Illinois using a vertical

Falkland Islands on 100 watts

Djibouti from Minnesota

Spain from New Zealand

Samoa, Reunion, and Banaba

### 10-Meter Contesting

If you missed the DARC 10-Meter Contest just held on January 8, here are a few excellent opportunities to jump on the 10-meter bandwagon with like-minded operators in the days ahead:

**NRAU (Nordic Radio Amateur Union) 10M Activity Contest:** February 2, 1800Z to 1900Z (CW); 1900Z to 2000Z (SSB); 2000Z to 2100Z (FM); and 2100Z to 2200Z (Digital)

**10-10 International Winter Contest**, SSB: February 4, 0001Z to February 5, 2359Z. 10-10 International also hosts a 10-meter digital contest in April, a CW contest in May, a weak-signal event in July, an SSB contest in August, all-mode and CW events in October, and another digital contest in November. From its website, "Ten-Ten International Net, or 10-10 for short, is an organization of amateur radio operators dedicated to maintaining high levels of amateur radio communications on the 10-meter amateur band (28.0-29.7 MHz)."

### Some 10-Meter Operating Tips

Longtime ham Scott Jones, N3RA, shared some insights on this favorite band

"Ten meters is a fun band. At this time of the sunspot cycle, we'll have normal daytime DX propagation which is great fun. The band has HF and VHF characteristics and modes of propagation (F, Es, TE, Tropo, ground wave, MS, auroral, etc.) which makes it quite interesting. Here are a couple of interesting things I've noticed about the band over time."

There is sometimes a neat opening in the mid-afternoon to the OH/SM/LA/TF, etc. area. The audio can sometimes have a slight fluttery sound to it. This is a little after most of the rest of EU is gone and the bulk of the opening has shifted to Central and South America and maybe even some Pacific. It helps to have directional antennas to point at, say, 20-25 degrees to listen for them.

In the early AM, you can sometimes get some over-the-pole activity and the Middle East/VU is available until just after their sunset.

After sunset and the opening to Central/SA, JA, and the Pacific is kind of done, try for some ground wave openings and sporadic-E openings. I've listened at 9 pm when nothing is really normally active and heard a few stations in WPA/OH/WV/WNY/MI on ground wave and then the next level out. The opening can be very short, of course, but it's there.

As with many things, higher activity levels allow us to "hear" openings on the band that are probably always there but no one is on to experience them. Even though some people might not use the FT8 modes, one amazing thing they provide is incredible amounts of data on band openings and activity, automatically and around the clock. This can be visualized on PSK Reporter, for instance. Even if you don't ever intend to do those modes, that site is a treasure trove of band data. - 73 -

---

## **Pros and Cons of HF Attic Antennas**

By Mark Haverstock, K8MSH

In a perfect world, all hams would have plenty of room for antennas. HOAs wouldn't exist, and there would be no need to hide antennas in the attic (provided you have one). While the performance of antennas located outside will almost always be better, locating them inside and in a roof space may be the only option—and a workable one.

### **Advantages of Installing an Attic Antenna**

Though installing a radio antenna in the roof space won't work as well as an outdoor antenna, there are some advantages:

**Ease of installation:** It is normally easier to install a radio antenna in the attic than outside. There is no need to climb up ladders onto the roof, scale towers, or raise tall masts from ground level. If you don't like heights, this is a great advantage.

**Access to feedline:** All radio antennas need a feedline to transfer signals to and from the antenna. Coaxial cable is the most common form of feeder. It could be easier to route feeders when installing an antenna in the roof space or attic.

**Protection from the elements:** Radio antennas located outside are subject to weathering. Wind, rain, and pollution all cause the antenna to deteriorate over time. Even the coax can deteriorate quite quickly, especially when water seeps inside.

**Visual impact:** Antennas located outside can be unsightly. Locating them inside removes the visual impact and hides them from neighbors and the HOA.

**No trees, masts, or towers needed:** The support structure is already in place.

### **The Downside**

Attic antennas are a compromise and may require more planning and care during installation. You should choose them only when outdoor antennas are impractical or not allowed.

**Low height above ground:** An antenna cannot be placed higher than the highest peak of the roof, a point usually low in terms of optimal HF antenna height.

**Heavy metal:** Got a metal roof, foil-backed insulation, and large amounts of HVAC paraphernalia? If you have any or all of these, the attic option may not work.

Shorter antennas: Sometimes the antenna must be shorter than 1/2 wavelength for a dipole to fit into the available space. Work-arounds include loading coils, traps, and linear loading—all of which can reduce efficiency.

RFI interference: Because of the proximity to your living area, interference from plasma TVs, power supplies, and other electronics could be a problem. You'll need to neutralize sources of RFI that may interfere with your receiver.

RF exposure: Because the antennas are installed inside the structure, you need to consider RF exposure to yourself and those living in your household. Likely this will include adjusting transmitter power levels. The ARRL has a PDF document, "RF Exposure and You," which can give you some guidance.

### **Attic Antenna Installation Tips**

When locating an antenna in the attic or roof space, there are several precautions you can take to ensure that performance is the best for the circumstances.

Keep away from internal wiring and ducting: There is often internal wiring or HVAC ducts within the attic or roof space. Make sure the antenna is as far away from these as possible so they do not affect performance.

Remember wiring and objects from the floor below: When installing an attic antenna, it is easy to forget lights and electronic devices can be a source of considerable interference. Keep the antenna as far away as possible from these and take measures to reduce or eliminate RFI in the home. Also remember the opposite is true—wiring can carry interference caused by your antenna.

### **HF Attic Antenna Options**

Confined spaces limit your options when it comes to HF antennas. It's also assumed that performance is much less than full-sized antennas. Depending on the attic, construction materials and layout, this can be true. But as a general rule, the impact is not as great as you might think.

You can install a simple wire dipole in almost any attic space. Don't worry if you don't have the room to run the dipole in a straight line. Try to keep the first 1/3 of each wire starting from the feed point straight and in the clear. The last 2/3 contributes little to radiation, so you can bend and shape it almost any way you want, except for folding it back tight on itself. Cross other conductors, like wiring, at right angles when possible to minimize inductive coupling, which increases RFI and losses.

Want to work more than a single band? Parallel/fan dipoles are a good solution that will allow you to operate on multiple frequencies. They're a relatively simple DIY project, or you can purchase a commercially made one.

Rotatable multiband dipoles are also a possibility, though they may not have enough room to actually rotate. They're essentially short dipoles with traps or loading coils and constructed with aluminum tubing.

But it isn't all about dipoles. You can try a magnetic loop—just remember it has a narrow bandwidth.

### **Up in the Air?**

Attic installations will require you to spend some time trimming and tweaking the length of the antenna to achieve the lowest SWR. You won't know exactly what will work the best until you build and test the antenna. That experience will help you—and maybe you'll discover new options.

At least you'll be out of the rain. - 73 -

## GEARS CENTURY MEMBERS

Michael Ellithorp    Kent Hastings  
Bennett Laskey    Jim Van Sickle

*We thank these members for their extra support.*

### GEARS Officers:

President.....Kent Hastings, WA6ZFY  
Vice-President.....Jamie Johnson KN6PWW  
Treasurer.....Jim Matthews, K6EST  
Secretary.....Tony Stefanetti KN6UNT  
Director.....Bennett Laskey, K6CEL  
Director.....Larry Mitchell KF6NCX  
Director.....Rich Astley, N3UOR  
Past President.....Jim Matthews, K6EST  
VEC Chairman.....Tom Rider, W6JS

GEARS Newsletter archive is here:

<https://drive.google.com/GEARS>

Follow GEARs on Facebook [www.facebook.com](http://www.facebook.com)

GEARS Newsletter edited by Jim Matthews K6EST

[JiminChico@yahoo.com](mailto:JiminChico@yahoo.com)

Your dues and contributions support our local repeaters, ARES, and outreach events to keep amateur radio alive in our area. GEARs also makes donations to support other local repeaters and clubs.

**GEARS Dues and Donations can be made online at**

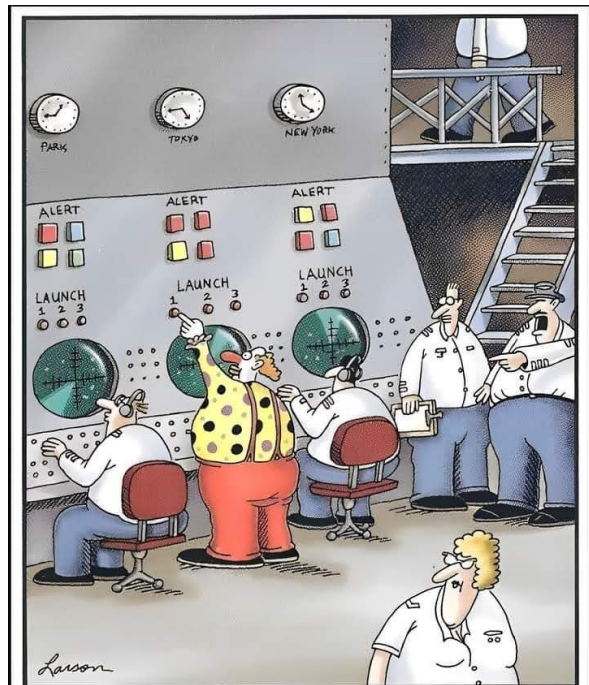
[paypal.me/w6rhc](https://www.paypal.me/w6rhc)

Or by mail to:

GEARS

PO Box 202

[Chico, CA 95927](http://Chico, CA 95927)



"Hey! What's that clown think he's doing?"